IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Applicant:	Yue Heng Xu	§	Art Unit:	2174
Serial No.:	09/409,366	§	Examiner:	Sy D. Luu
Filing Date:	September 30, 1999	§	Docket:	ITL.0250US P7375
For:	Using Two Electronic Programming Guides	§	Assignee:	Intel Corporation

Mail Stop **Amendment**
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

The undersigned inventor of the above-referenced patent application states as follows:

1. I conceived of the invention set forth in the above-referenced patent application prior to September 17, 1999.

2. In support thereof, I attach a copy of my invention disclosure that bears a receipt date of May 21, 1999 and a signature date by me of May 21, 1999.

3. On information and belief, the application was reviewed and comments were provided by me before the application was filed.

Date of Deposit: February 28, 2005
I hereby certify under 37 CFR 1.8(a) that this correspondence is being deposited with the United States Postal Service as **first class mail** with sufficient postage on the date indicated above and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Cynthia L. Hayden

Cynthia L. Hayden

4. I acknowledge that willful false statements and the like are punishable by fine or imprisonment, or both, (18 U.S.C. § 1001) and may jeopardize the validity of the application or any patent issuing thereon.

5. All statements made to the Declarant's own knowledge are true and all statements made on information and belief are believed to be true.

Date: 2/28/2005

Yue Heng Xu

INTEL INVENTION DISCLOSURE

DATE: 3/21/99 HPG/CG/Comm/HPG/HSE MAY 21 1999

It is important to provide accurate and detailed information on this form. The information will be used to evaluate your invention for possible filing as a patent application. When completed, please return this form to the **Legal Department at JF3-147**. If you have any questions, please call **264-0444 or 264-1476.**

1. Inventor: _XU_____ _Yueheng_____ _____
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   Group: (e.g. TMG, NBG, CEG) _____ Division Name _____ Subdivision _____

   Supervisor*_____ WWID _____ Phone _____ M/S: _____

   (PROVIDE SAME INFORMATION AS ABOVE FOR EACH ADDITIONAL INVENTOR)

2. Title of Invention: A web based on-demand electronic program guide_____

3. What technology/product/process (code name) does it relate to (be specific if you can):
   All the broadcast plus products delivered or to be delivered in HPG, specifically related to DirecTV, ATVEF, PCC Portal, etc._____

4. Stage of development (i.e. % complete, simulations done, test chips if any, etc.)
   Concept

5. (a) Has a description of your invention been, or will it shortly be, published outside Intel:

   NO: __X YES: _____ If YES, was the manuscript submitted for pre-publication approval? _____

   IDENTIFY THE PUBLICATION AND THE DATE PUBLISHED: _____

   (b) Has your invention been used/sold or planned to be used/sold by Intel or others?

   NO: __X YES: _____ DATE WAS OR WILL BE SOLD: _____

   (c) Does this invention relate to technology that is or will be covered by a SIG (special interest group)/standard/ or specification?

   NO: X YES: _____ Name of SIG/Standard/Specification: _____

   (d) If the invention is embodied in a semiconductor device, actual or anticipated date of tapeout? _____

   (e) If the invention is software, actual or anticipated date of any beta tests outside Intel _____

6. Was the invention conceived or constructed in collaboration with anyone other than an Intel blue badge employee or in performance of a project involving entities other than Intel, e.g. government, other companies, universities or consortia? NO: _X YES: _____ Name of individual or entity: _____

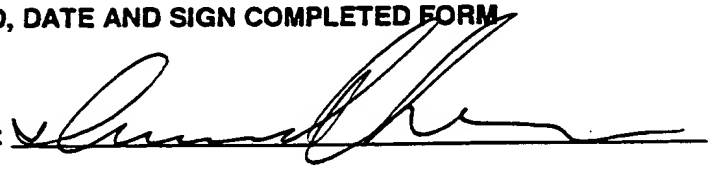
7. Is this invention related to any other invention disclosure that you have recently submitted? If so, please give the title and inventors: _No_____

PLEASE READ AND FOLLOW THE DIRECTIONS ON HOW TO WRITE A DESCRIPTION OF YOUR INVENTION

Please attach a page to this form, DATED AND SIGNED BY AT LEAST ONE PERSON WHO IS NOT A NAMED INVENTOR, to provide a description of the invention, and include the following information:

1. **Describe in detail what the components of the invention are and how the invention works.**
2. **Describe advantage(s) of your invention over what is done now.**
3. **YOU MUST include at least one figure illustrating the invention. If the invention relates to software, include a flowchart or pseudo-code representation of the algorithm.**
4. **Value of your invention to Intel (how will it be used?).**
5. **Identify the closest or most pertinent prior art that you are aware of.**
6. **Who is likely to want to use this invention or infringe the patent if one is obtained and how would infringement be detected?**

***HAVE YOUR SUPERVISOR READ, DATE AND SIGN COMPLETED FORM**

DATE: 5/21/99 SUPERVISOR: 

BY THIS SIGNING, I (SUPERVISOR) ACKNOWLEDGE THAT I HAVE READ AND UNDERSTAND THIS DISCLOSURE, AND RECOMMEND THAT THE HONORARIUM BE PAID

Intel Invention Disclusure Attachment

A web based on-demand electronic program guide

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Introduction

The World Wide Web is a popular way for people to receive information at the demand of the receiver. But the limited Internet bandwidth only makes the download Of small content to be practically feasible in a real time basis.

Data broadcast, as it is hapenning in the Intel Intercast technology and the Digital TV technology, with the use of VBI or Satellite channel, is a way that unlimited number of users can share a fixed, and usually high bandwidth channel to receive data from single source. And, each user feels like he/she owns the whole bandwidth of the channel.

For those users who want to listen to and receive specific content from a broadcaster, the only way to do is to tunning to the specific channel in a specific time frame. And, the users also expect the receiver's machine to receive and re-construct the files properly from the data packet transmitted throug the broadcast channel.

In databroadcasting, the usual way of tuning is that, in a fixed channel, there is a constant broadcasting of the electronic program guide (EPG) information. By receiving the EPG, the user can getting information about other content channels and tune to the other channels.

If the channel information is limited and the EPG itself is not very big, there is no problem for this approach. However, if the EPG itself is very big and takes long time to download, as it would happen if the content has many references like it happen in WWW content, then, it is desirable to let user just fetch the minimum channel information on the specific content this user want to tune to listen.

We propose here that the user has an Internet access as the back channel connected to a web site of the broadcaster. The user can simply browse a web page And fetch the minimum program guid information from the web page and then tune to the broadcast channel to receive more content.

Benefit to Intel

Electronic Program Guide is an essential part of any data broadcasting system.
The ongoing Digital TV project and other data broadcast related future projects in the Broadcast Product Division of Consumer Product Group of Intel will likely to face

the issues of how to present the electronic program guide to the receivers. The ideas presented in this invention disclosure is definitely one of the options that might be competing with existing way of presenting the electronic program guide.

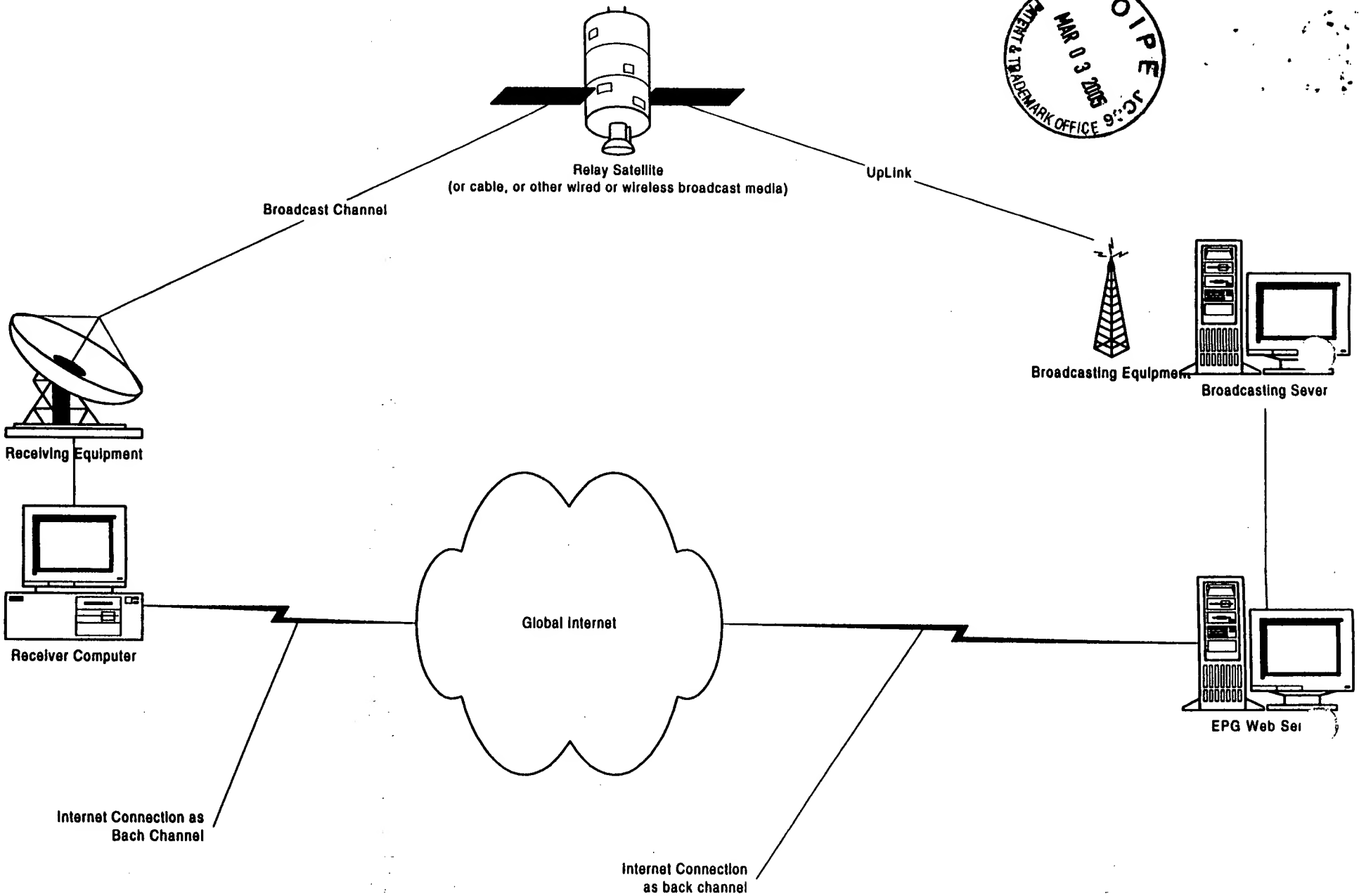
Brief Description of the invention

As shown in the figure 1, the user has a high banwidth download path from the Broadcasting channels. The user also has a low to medium bandwidth two-way Internet link to a web site of the broadcaster. The Relay Satellite here is an optional device. It is just used as specific example when the broadcasting media is through satellite.

When user turns the receiver on, the basic EPG is presented on the receiver from the broadcaster through the broadcasting channels, or, it has been saved in the static memory device of the receiver, either in disk or in CMOS memory. So, the user can tune to the major channels of the broadcaster very quickly. If user has interest on other content not presented in the default and hot channels, he/she can start the Internet connection and connected to a web site of the broadaster and browsing through the program guide over there. Once the user is committed to one channel, he/she can click a web page button and fetch the tuning information of that channel back to the receiver and automatically tune to that channel and start receiving the content from that broadcasting channel. The receiver can also buffer and save this guide information as a channel bookmark for future listenning.

One of the major benefits of this web based on-demand electronic program guide is that no bulky EPG need to be downloaded first before user can listen to any particular Channel content. Even no big disk space is needed to save the bulky EPG before hand. This is because the user already filtered all the unnecesssary information during the browsing process and only the minimum information needed to tune the receiver hardware and software is fetched from the guide. Even the size of a small disk, or a CMOS memory chip would be enough for the saving purpose of this approach. This makes this approach to the EPG especially attractive to data broadcast set-top box devices.

Another benefit of this On-Demand approach is that, all the user authentication and billing arrangements can be made through the Internet based back channel. No access card (as it is in current DSS and other satellite TV system) is needed and all the account informatuon can be dynamically updated up to the minutes and affects the access priviledge of the content channels instantly.



Web Based On-Demand Electronic Program Guide